



INSTRUCTIONS FOR USE

PRO-JECT 1.2

PRO-JECT 1.2

Controls, features and connections

- 1 Motor transportation screw (marked red)
- 2 Stepped drive pulley
- 3 Drive belt *
- 4 Hub
- 5 Platter with felt mat *
- 6 Tonearm counterweight * 6a Downforce scale
- 7 Tonearm lift lever
- 8/18 Tonearm rest and removable transport lock
- 9 Tonearm tube
- 10 Lid *
- 11 Lid hinges
- 12 Hinge fasteners
- 13 Mains cable
- 14 Signal output cable
- 15 Anti-skating weight adjustment scale
- 16 Anti-skating weight *
- 17 Anti-skating weight support hoop
- 20 Mains switch
- 21 Headshell with optional finger lift *
- 22 Motor
- 23 Feet

Dear music lover,

thank you for purchasing a PRO-JECT AUDIO record player.

Our turntables set new standards and show how audiophile quality analogue reproduction may be achieved with simple and very cost effective means. The success of PRO-JECT record players and many customer's comments have lead us to develop a better model based on the PRO-JECT 1. The PRO-JECT 1.2 is characterized by the use of a higher quality tonearm.

In order to achieve maximum performance and reliability with this record player you should study these instructions for use carefully.

During assembly and adjustment of the deck small parts could be lost if not carefully placed in a suitable receptacle.

Before starting assembly make yourself acquainted with the parts listed above and correspondingly numbered in the technical drawings above. Separately packed items are marked with an asterisk *.

Set-up

The deck is supplied partially disassembled and carefully packaged for safe transport. Carefully remove all parts from the transport packaging. Make sure the surface you wish to use the turntable on is level (use a spirit level) before placing the turntable on it. Remove the two red transport screws (1) which secure the motor (22) during transportation.

Fit the drive belt (3) around the hub (4) and the motor pulley (2). Avoid getting sweat or grease on the belt as these will deteriorate the performance and reduce the belt's lifespan. Use absorbent kitchen paper to remove any oil or grease from the outer edge of the hub and the belt. Fit the platter and felt mat over the spindle of the hub.

Remove the transport lock (18) from the tonearm and the tonearm bearing. Store it together with the two red motor transport screws (1) in the original packaging so they are available for any future transportation.

Fitting and connecting the cartridge

All cartridges with half inch mounting holes can be fitted. Leaving the needle's protection cover on, fit the cartridge to the headshell using the screws supplied with the cartridge by passing one screw through each slot in the headshell (21). Do not tighten the nuts yet.

Connect the tonearm wires to the cartridge pins as follows:

white	Left channel positive (L+)
red	right channel pos. (R+)
green	right channel return (R -)
blue	left channel return (L -)

The full sound quality of the PRO-JECT 1.2 can only be achieved if the cartridge is correctly adjusted. Particular tools are required to accomplish this job properly. If you are not well acquainted with the adjustment of cartridges you are advised to call upon the willing help of your PRO-JECT dealer to accomplish this task for you.



Please note: adjusting a cartridge and tonearm calls for the greatest care in order to avoid damaging the cartridge or tonearm bearings. Leave this work to your dealer if you are in any way unsure of the necessary steps and precautions to be taken.

Cartridge downforce adjustment

The counterweight (6) supplied is suitable for cartridges up to 7g weight. A heavier counterweight is available as an extra for cartridges with a heavier weight. Pushing carefully turn the counterweight (6) onto the rear end of the tonearm tube (9), and so that the downforce scale (6a) shows towards the front of the player.

Remove the anti-skating weight and needle cover (e.g. PRO-JECT K4 or K6) if fitted. Move the tonearm into the area between the armrest and the platter's edge and lower the tonearm lift. Now turn the counterweight (6) back and forth until the tonearm balances out level when released. Repeat the adjustment until you are sure that the arm is balanced, and then return the arm to the armrest. Holding the counterweight (6) to prevent it moving, rotate the downforce scale (6a) until the zero on the scale lines up with the anti-skating thread stub (15).

Check that the arm is still balanced correctly. By rotating the arm together with the scale the downforce recommended by the manufacturer for the cartridge can be set. This procedure must be repeated once the cartridge has been correctly aligned.

Tonearm height adjustment

Put a record on the platter. When the needle is lowered into the record groove and the tonearm is not resting on the lift arm, the tube of the tonearm should be parallel to the surface of the record. If it is not loosen both allen screws in the tonearm base just enough to allow vertical movement of the arm pillar without force and slide the arm up or down until it is parallel. Carefully retighten the allen screws without applying excessive force (which would deform the arm pillar) – finger tight is quite sufficient.

Adjusting the vertical tracing angle (vta)

The cartridge needle must be vertical in the record groove in order to trace the groove wall modulations correctly.

A small screw at the bearing end of the arm, which is covered by the outer bearing ring, allows incorrect vta to be corrected if your needle is not mounted exactly perpendicular to the cartridge body (which is often the case).

In order to access this screw, the stub for the anti-skating weight thread (15) must be removed by gently unscrewing it with flat nosed pliers or a strong pair of tweezers. Keep the stub in a safe place until you are ready to reinsert it.

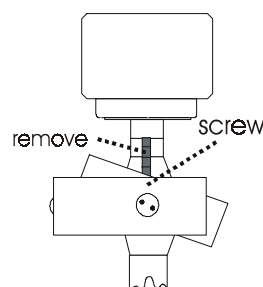
Now tilt the front of the tonearm up, and slacken off the screw just enough to be able to revolve the arm tube without applying force. Note! *Do not remove the screw completely!*

With the aid of a good magnifying glass adjust the needle until it is vertical in the groove (i.e. perpendicular to the record's surface). Ideally this should correspond to the top surface of the cartridge body being parallel to the record surface, but in practice this is often not the case.

When you are satisfied that the needle is vertical retighten the screw carefully and replace the anti-skating stub.



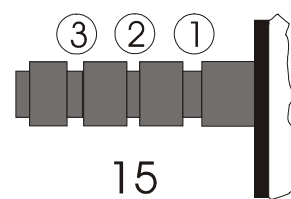
Under no circumstances should the arm tube be adjusted with the needle still in the record groove! Irreparable damage may be caused to the cantilever suspension! The arm must be lifted to make each adjustment and lowered afterwards to check it.



Anti-skating force adjustment

The anti-skating force must be adjusted according to the mass of the cartridge as follows:

Downforce	Groove in the stub (15)
10 - 15 mN	1 st from bearing rings
15 - 20 mN	2 nd " " "
20 - 25 mN	3 rd " " "



Hang the loop of the thread of the anti-skating weight in the groove of the anti-skating stub (15) corresponding to the downforce applied to your cartridge and feed the thread through the loop of the wire support (17). By applying gentle pressure to the wire support (17) bend it until the anti-skating weight hangs exactly over the spot shown on page 2.

With very heavy cartridges it is possible that the anti-skating force will not be sufficient even in the third groove. A heavier anti-skating weight can then be ordered through your PRO-JECT dealer.

Changing replay speed

To play records at 45 r.p.m. first remove the platter (5). Using the accessory tool provided hook the belt (3) over the larger diameter part of the motor pulley (2). Refit the platter. To revert to 33,33 r.p.m. repeat the proceedings using the smaller step on the pulley.

Connection to the amplifier

The PRO-JECT 1.2 has a captive tonearm signal lead (14) for connection to the amplifier. Use the Phono input (sometimes labeled gram, disc or RIAA) on your amplifier. Make sure that the phono input offers correct matching and amplification for the type of cartridge used. Line inputs (such as CD, Tuner, Tape or Video) are not suitable.

Take care to connect the left and right channels correctly. The right channel is usually marked red, the left channel black or white. Check the manual supplied with your amplifier for relevant information. The earthing wire of the tonearm lead should be connected to the earth terminal on your amplifier (if provided).

If your amplifier does not have an input suitable for phono cartridges you will require a separate phono amplifier stage for MM or MC cartridges such as the PRO-JECT PHONO BOX, which is then connected between the record player and a free line level input of the amplifier. For further information see the last page.

Mains power connection, switching on and off

The turntable is supplied with a captive mains lead (13) which allows connection to your country's mains supply. Check the label before plugging into the mains to ensure compliance with the mains rating in your house. Pressing the power switch (20) alternately starts or stops the motor.

Fitting the lid

Fit the lid (dust cover 10) carefully over the hinge prongs and adjust the screws (12) until the lid stays open where you want it to without being too stiff to open or close.

Maintenance and cleaning

Your record player requires little or no regular maintenance. Remove dust with a slightly moistened antistatic cloth. Never use a dry cloth because this will create static electricity which attract more dust! Antistatic cleaning fluids are available at specialist stores but must be applied sparingly to avoid damage to rubber parts. It is recommended to fit the needle cover before cleaning or maintenance is carried out to avoid damage.

If the player is not used over a long period of time the drive belt can be removed to prevent unequal stretching.



Always disconnect the record player from the mains power supply as a precaution before maintenance!

Useful tips

The lid is not only a dust cover but also a resonant structure likely to be excited by, and to pass into the plinth, the acoustic energy emanating from your loudspeakers during replay. It is therefore recommended that the lid be removed for optimum sound quality.

The finger lift (21) may be fitted on top of the headshell under the cartridge fixing bolts or nuts - *not* between headshell and cartridge body - but may impair the sound quality by adding resonances. It is supplied to ease placement of the arm over the record and may be omitted. The use of the lift (7) considerably facilitates use of the arm without the finger lift.

The record player should be positioned on a low-resonance surface such as wood or multiple layer ply board to avoid structural vibrations disturbing replay.

Technical data

PRO-JECT 1.2

Mains power supply	220-240V, 50 cycles
Power consumption	2VA
Nominal speeds *	33,33/45,11 r.p.m.
Speed variance	> $\pm 0,5$ %
Wow and flutter	> $\pm 0,1$ %
Signal to noise	> -70dB
Downforce range	10 - 30mN
Effective tonearm length	8,6 " (218,5mm)
Overhang	18,5mm
Dimensions (H x W x D)	133 x 415 x 325mm
Weight	6,2kg

*(pulley for 78 r.p.m. available extra)

Potential incorrect use and fault conditions

PRO-JECT turntables are manufactured to the highest standards and undergo strict quality controls before leaving the factory. Faults that may possibly occur are not necessarily due to material or production faults but can sometimes be caused by incorrect use or unfortunate circumstances. Therefore the following list of common fault symptoms is included.

The platter doesn't turn although the unit is switched on:

- The unit is not connected to the mains power supply.
- No mains at the socket.
- Drive belt is not fitted or has slipped off.

No signal on one or both channels:

- No connection between player and amplifier.
- Phono input not selected at amplifier.
- Poor contact in connection.
- Amplifier not switched on.
- Amplifier or speakers defective or muted.
- No connection to the cartridge pins or loudspeakers.

Strong hum on phono input:

- No earth connection from cartridge or arm or arm cable to amplifier, or earth loop.

Distorted or inconsistent sound from one or both channels:

- Record player is connected to wrong input of amplifier, or MM/MC switch incorrectly set.
- Needle or cantilever damaged.
- Wrong r.p.m., drive belt overstretched or dirty, platter bearing without oil, dirty or damaged.

Service

Should you encounter a problem which you are not able to alleviate or identify despite the above information, please contact your dealer for further advice. Only when the problem cannot be resolved there should the unit be sent to the responsible distributor in your country.

Never return a record player without making sure that it is safely disassembled and correctly packaged in the original packaging according to the diagrams on the last page of this booklet. Guarantee repairs will only be effected if the unit is returned correctly packaged. For this reason we recommend keeping the original packaging.

Please remove these parts and pack them separately: lid (10), counterweight (6), anti-skating weight (16) platter (5), cartridge, belt (3). Insert the transport screws for the motor (1), the transport lock for the tonearm (18) and the tonearm bearing prior to carefully packaging the record player.

Warranty

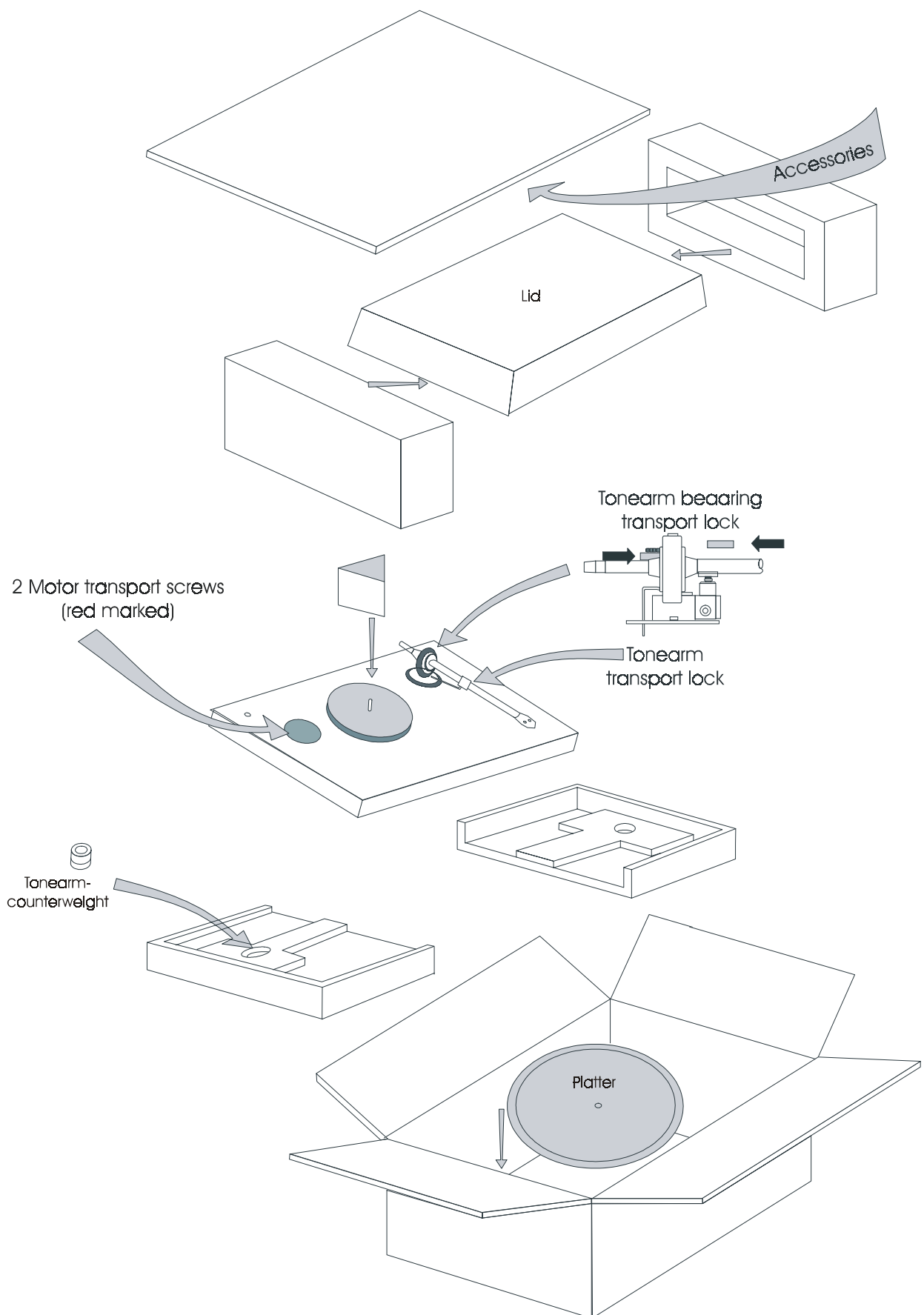
Warranty 6 Months, on receipt of warranty registration documents 2 Years.



The manufacturer accepts no responsibility for damage caused by not adhering to these instructions for use and/or by transportation without the original packaging. Modification or change to any part of the product by unauthorized persons release the manufacturer from any liability over and above the lawful rights of the customer.

PRO-JECT is a Registered Trademark of H. Lichtenegger.
This guide was produced by: ATR-Audio Trade GmbH
Copyright © 2001
Audio Tuning. All rights reserved.

The information was correct at the time of going to press. The manufacturer reserves the right to make changes to the technical specification without prior notice as deemed necessary to uphold the ongoing process of technical development.



Pro-Ject Phono Box

MM/MC Phono Pre-amplifier



Good sound from sound technology

- Metal case shields the electronics from vibrational and electromagnetic interference
- Small size allows installation close to record player
- Outboard power supply included
- ACTI-DAMP-Circuit for automatic impedance matching for most cartridges
- Optimal channel separation through dual-mono circuitry
- Special low-noise ICs used
- Gold plated RCA connection sockets

Technical specifications

Input sensitivity, MM	5mV/1kHz
Input sensitivity, MC	0,45mV/1kHz
Input impedance, MM	47k Ω /100pF
Input impedance, MC	100 Ω /100pF
Output voltage	200mV/1kHz
Noise floor, MM	-88dB
Noise floor, MC	-79dB
THD	0,005%
RIAA-equalisation curve accuracy	20Hz - 20kHz / max. 0,5dB
Power supply type	Mains-fed outboard power supply
Output voltage	15-16V/50mA AC
Dimension W x D x H	112 x 115 x 30mm
Weight	280g without power supply

The manufacturer reserves the right to alter the technical specifications without notice.
Warranty: 6 months, 24 months upon registration of warranty using the supplied warranty card.